

palpi are long, and resemble the legs in colour. The eyes are closely grouped in the form of a small oval open in front, on a slight eminence at the anterior part of the cephalothorax, and the two anterior ones are the largest of the six. The abdomen is of an oblong oviform figure, somewhat convex above, and projects very little over the base of the cephalothorax; it is sparingly clothed with hairs, and has on its upper part numerous short, strong, black bristles, more or less erect; its colour is dark yellowish brown, the two extremities and the under part being the yellowest; and the lips of the branchial and tracheal stigmata have a red-brown hue.

The male closely resembles the female, but it is smaller, and its abdomen is slenderer and more cylindrical. The digital joint of its palpi is shorter than the radial joint, and the palpal organs are connected with it by a short pedicle on the under side; they are prominent, somewhat oviform at the base, abruptly bent towards the extremity, which terminates in a point, and have a strong pointed process situated immediately above the abrupt bend; their colour is red-brown, that of the base of the pointed process being yellowish white, and the oviform part is marked with a spiral band of a browner hue, apparently produced by the convolutions of an internal vessel.

Two adult males and five females of this species, two of the latter being immature, were comprised in the collection.

I dedicate this new species of *Dysdera* to T. Vernon Wollaston, Esq., one of our most accomplished coleopterists, whose valuable researches have contributed largely to extend our knowledge of the entomology of Madeira, and to whom I am obliged for opportunities of describing various interesting spiders captured in that island.

**XIX.—Descriptions of Twenty-six new Species of Australian Land-Shells.** By JAMES C. COX, M.D., Sec. Entomological Society of New South Wales.

**1. *Helix Blomfieldi*, mihi.**

*H. testa subglobosa*, apice obtusa; anfractibus septem, rotundatis; concentrica minute striata; apertura ovato-elongata; sutura impressa et alba, ustulato-rufa, apice flavicante et spiraliter lineata; labro crassissimo, reflexo, columella labroque violaceis.

Diam. maj. 1·064, min. 1·040, alt. 1·048 unc.

*Hab.* Miriam Vale, Port Curtis (Cox). Mus. C.

**2. *Helix Belli*, mihi.**

*H. testa late et perspective umbilicata, discoidea, depressa et sub-*

concava, regulariter costellato-striata, rufo-castanea, nitidiuseula ; anfractibus quinque convexiusculis, ultimo tumido rotundato ; spira submersa ; sutura profunde impressa ; apertura lunari ; peristomate simplici, recto.

Diam. maj. 0·07, min. 0·06, alt. 0·02 unc.

Hab. Green-oakes, Darling Point, Sydney (Bell). Mus. C.

### 3. *Helix conoidea*, mihi.

*H.* testa umbilicata, conoidea, sordide lutescente, ad apicem griseo-plumbea, parum nitente, irregulariter sulcata et costata ; anfractibus septem, plano-convexiusculis, ultimo carinato ; spira obtusa ; apertura lunari-ovata, tenni.

Diam. maj. 0·37, min. 0·35, alt. 0·30 unc.

Hab. Cabbage-Tree Island, Port Stephens (King). Mus. Rev. R. L. King.

### 4. *Helix Lyndhurstensis*, mihi.

*H.* testa ample aperte umbilicata, pellucida, rotundato-depressa, obsolete striata, glabra, nitida ; spira obtuso-convexa, fuscescens ; anfractibus quatuor aut quinque, ultimo dilatato ; apertura lunato-circulari ; peristomate simplici, acuto.

Diam. maj. 0·16, alt. 0·06 unc.

Hab. Lyndhurst, Sydney (King). Mus. Rev. R. L. King.

### 5. *Helix Mitchellae*, mihi.

*H.* testa imperforata, subgloboso-turbinata, oblique concentrica striata, sub lente minute granulata, intense castanea, duabus lineis nigris et duabus luteis fasciata ; spira elevata ; anfractibus septem, convexiusculis, ultimo angulato ; apertura obliqua, transversim ovali ; labro reflexo ; intus intense lilacea, marginibus callo junctis.

Diam. maj. 1·056, min. 1·050, alt. 1·015 unc.

Hab. Clarence River (Mitchell). Mus. Mrs. James Mitchell.

### 6. *Helix Mastersi*, mihi.

*H.* testa anguste umbilicata, depresso-conoidea, radiatim rugoso-striata, undique minute granulata, subpellucida, saturate castanea ; spira depressa ; anfractibus sex, vix convexiusculis, ultimo angulato ; columella laevi et dilatata, umbilicum semitegente ; apertura lunato-subcirculari, marginibus conniventibus ; labro tenui, vix dilatato, intus livido.

Diam. maj. 1·19, min. 0·98, alt. 0·65 unc.

Hab. Merimbula, New South Wales (Masters). Mus. C.

### 7. *Helix microscopica*, mihi.

*H.* testa umbilicata, conoidea, rubido-cornea, pellucida, nitente ; anfractibus quinque, gradatim inrecessentibus ; spira obtusa ; sutura impressa ; costis crebris transversalibus elevatis, interstitiis

minutissime punctato-striatis; apertura rotundato-lunari; peristome simplici.

Diam. maj. 0·04, alt. 0·02 unc.

*Hab.* Stroud (King). Mus. Rev. R. L. King.

### 8. *Helix Morti*, mihi.

*H.* testa late et profunde umbilicata, depresso-convexa, costato-rugosa, sub lente interstitiis minutissime et decussatim striato-punctulatis, solidiuscula; anfractibus quinque, convexiusculis, ultimo rotundato; sutura impressa; apertura fere rotundata; peristome simplici, acuto, margine columellari paulo reflexo.

Diam. maj. 0·08, min. 0·07, alt. 0·04 unc.

*Hab.* Green-oakes, Darling Point, Sydney (Macgillivray). Mus. C.

### 9. *Helix Kreffti*, mihi.

*H.* testa anguste umbilicata, convexo-depressa, nitida, subpellucida, striatula, cornea, subtus opaca; anfractibus sex, convexis; apertura rotundato-lunari, margine columellari dilatato, umbilicum semitegente.

Diam. maj. 0·57, min. 0·49, alt. 0·31 unc.

*Hab.* Cape York (Macgillivray). Mus. C.

Only one specimen found.

### 10. *Helix Stroudensis*, mihi.

*H.* testa subampliter umbilicata, discoidea, fuscescente, tenuiter costellato-striata, convessa; sutura impressa; anfractibus quinque; spira truncata; peristome simplici, acuto; apertura lunato-ovata.

Diam. maj. 0·12, alt. 0·05 unc.

*Hab.* Stroud, Port Stephens (King). Mus. Rev. R. L. King.

### 11. *Helix marmorata*, mihi.

*H.* testa umbilicata, depresso-convexa, laevigata, obsolete interne striata, nitidissima, rufo-cornea, basi subcompressa; anfractibus sex; spira late conoidea; apertura lunari; peristome recto simplicique, margine columellari basi parum reflexo, vix umbilicum minutum subobtegente.

Diam. maj. 0·40, min. 0·34, alt. 0·22 unc.

*Hab.* Kiama (Masters); Fernhill, Penrith; Port Curtis; Broken Bay (Cox). Mus. C.

### 12. *Helix Strangeoides*, mihi.

*H.* testa late et profunde umbilicata, depressa, flavo-cornea, superne confertim tenuissime striata, lineis minutissimis decussata, inferne laevigata; lineis obsoletis interne striatis; anfractibus quinque, ultimo declivi, rotunde convexo, cæteris planiusculis; apertura subobliqua, lunari-rotundo; peristome tenui, simplici.

Diam. maj. 0·38, min. 0·32, alt. 0·16 unc.

*Hab.* Moreton Bay (King). Mus. Rev. R. L. King.

13. *Helix Parramattensis*, mihi.

*H.* testa imperforata, depresso-globosa, conica, lœvissima, tenui, nitente, flavicante; sutura impressa; anfractibus sex, ultimo convexo, ceteris subæquantibus; spira obtusa; apertura ovato-lunari; peristomate simplici rectoque.

Diam. maj. 0·12, min. 0·10, alt. 0·09 unc.

Hab. Parramatta (King). Mus. C.

14. *Succinea Nortonii*, mihi.

*S.* testa ovata, tenui, ventricosissima, pellucido-cornea, apice rufescente; anfractibus quatuor, longitudinaliter ruditer et irregulariter elevato-striatis, ultimo perampliter inflato; labro simplici; apertura ovata; columella peristomateque continuatis.

Long. 0·47, diam. 0·36 unc.

Hab. Norton's Basin, Nepean River, N.S.W. (Cox). Mus. C.

15. *Succinea Macgillivrayi*, mihi.

*S.* testa ovata, ventricosissima, sordide fusca, versus apicem rosacea; anfractibus tribus, sub lente minute striatis; apertura perampla, ovata; labro simplici; columella peristomateque continuatis.

Long. 0·30, diam. 0·20 unc.

Hab. Mount Henry, Mulgoa, N.S.W. Under stones in moist places (Cox). Mus. C.

16. *Succinea rhodostoma*, mihi.

*S.* testa elongato-ovata, ventricosa, solidiuscula, opaca, nitente, albida, ad apicem roseo tincta; anfractibus quatuor, longitudinaliter ruditer et irregulariter elevato-striatis; labro simplici, intus rosea porphyracea; apertura ovata.

Long. 0·50, diam. 0·27 unc.

Hab. Point Lowly, South Australia (Cox). Mus. C.

17. *Pupa Kingi*, mihi.

*P.* testa sinistrorsa, profunde et breviter rimata, ovato-oblonga, tenui, lœvigata, nitida, hyalina, rubido-castanea; spira convessa, apice obtusa; anfractibus quatuor, convexiusculis, ultimo semi-longitudinem testæ vix æquante; apertura verticali, irregulariter constricta et subbipartita, tridentata, dente conspicuo acutiusculo in pariete aperturali, altero minore latiore et obtuso in columella, tertio minimoque in margine externo; peristomate incrassato et breviter expanso; ore rubido, dentibus albis.

Long. 0·05, diam. 0·03 unc.

Hab. Parramatta (King). Mus. Rev. R. L. King.

18. *Pupina Wilcoxi*, mihi.

*P.* testa ovata, nitidissima, hyalina, rubro-lutescente, tenuiuscula; spira obtusa; anfractibus sex, duobus ultimis æqualibus et maximis, ceteris gradatim decrescentibus; apertura obliqua, orbiculari, externe producta; peristomate albo, vix incrassato, non continuo,

reflexo, canalibus duobus interrupto, canali superiore ad partem superiori vel angulum aperturæ, inferiore ceterum vix æquante. Diam. 0·17, long. 0·35 unc.

*Hab.* Clarence River, N.S.W. (Wilcox). Mus. C.

19. *Pupinella Macgillivrayi*, mihi.

*P.* testa imperforata, ovato-oblonga, glabra, nitida, pellucidaque; spira ventrosa; anfractibus septem, convexiusculis, minutissime transversim striatis, ultimo maximo, penultimo ceteros æquante; apertura subverticali, circulari; peristome incassato alboque, canalibus duobus angustis.

Long. 0·50, diam. 0·24 unc.

*Hab.* Port Denison, Queensland (Cox). Mus. C.

20. *Pupinella Whartoni*, mihi.

*P.* testa umbilicata, acuminato-oblonga, solidiuscula, luteo-fulva aut corneo-fusca; anfractibus septem, modice convexis, ultimo penultimo longiore, ceteris decrescentibus, tumidiusculis, sub lente transversim minute striatis; sutura indentata; apertura subverticali, circulari; peristome albido, margine ubique expanso et sub-reflexo, non antice dilatato ut in *Pupinella Borneensi*.

Long. 0·59, diam. 0·47 unc.

*Hab.* Port Denison and Port Curtis, Queensland (Cox). Mus. C.

21. *Helicina Gladstonensis*, mihi.

*H.* testa globoso-turbanata, carinata, infra vix callosa, fuscescente, maculata; anfractibus quatuor; apertura semicirculari; peristome reflexo alboque; operculo corneo.

Diam. maj. 0·16, min. 0·12, alt. 0·10 unc.

*Hab.* Gladstone, Port Curtis, Queensland (Cox). Mus. C.

22. *Helix costulata*, mihi.

*H.* testa late et perspective umbilicata, solidiuscula, discoidea, superne inferneque regulariter costata, rufo-fuscente, opaca; anfractibus quatuor, convexis, ultimo subrotundato; spira subconcava; sutura impressa; aperturalunari, subverticali; peristome simplici rectaque. Diam. maj. 0·10, min. 0·09, alt. 0·06 unc.

*Hab.* Green-oakes, Darling Point, Sydney, N.S.W. (Macgillivray). Mus. C.

23. *Pupa Ramsayi*, mihi.

*P.* testa dextrorsa, fusiformi-oblonga, solidiuscula, nitida, albida, ad apicem fusca; spira obtusa; anfractibus quinque, convexiusculis, longitudinaliter obsolete tenuiter striatis, 3°, 4° et 5° gradatim decrescentibus; apertura obliqua, late ovata, antice fere angulata, dentibus parvis obtusis in pariete aperturali; peristome vix incassato, breviter expanso; ore dentibusque albis.

Long. 0·20, diam. 0·09 unc.

*Hab.* Point Lowly, South Australia (Cox). Mus. C.

24. *Bulimus Walli*, mihi.

*B. testa acuminato-elongata, gracili, minute umbilicata; anfractibus octo, minute transversim striatis; intus brunnea; apertura parva; columella parum reflexa; labro simplici.*

*Hab.* Kalka, Rockhampton (W. S. Wall, jun.).

Diam. 0·12, alt. 0·44 unc. Mus. C.

The same type of shell as *B. Tuckeri*.

25. *Bulimus Onslowi*, mihi.

*B. testa subobtecta perforata, ovata, solidiuscula, striata, albescente vel pallide cornea fasciis crebris transversalibus rufescentibus; spira conica, obtusa; sutura profunda; anfractibus quatuor, parum convexis, striis plurimis semiregularibus spiralibus transversisque sculptis, ultimo ventroso, spiram duplo dimidioque superante; apertura subverticali, angulato-ovali, intus pallide plumbea; peristome simplici, tenui; margine columellari albido, reflexo, basi adnato.*

Long. 0·85, diam. 0·60 unc.

*Hab.* Dirk Hartog's Island, Shark Bay, Western Australia (Onslow). Australian Museum.

26. *Bulimus Jacksonensis*.

*B. testa ovato-conica, imperforata; anfractibus quatuor, vix convexisculis, glabris, nitidis, ultimo duplo ceteros sequante; spira obtusa; sutura impressa; apertura ovata; labro simplici, corneo pellucidoque; columella recta.*

Long. 0·14, diam. 0·05 unc.

*Hab.* Darling Point, Port Jackson (King &c.).

XX.—*Histological Researches on the Formation, Development, and Structure of the Vegetable Cell.* By Prof. H. KARSTEN.

[Concluded from p. 133.]

## § XI.

Intercellular substance.—Cuticle.—Metamorphosis of the substance of the different membranes of a joint-cell, and their development independently of the operation of a primordial utricle.—Formation of layers by the cell-membrane.—Difference between a cell-membrane and a layer of cell-membrane.—Varieties and causes of the transformations of the originally structureless cell-membrane.—Untenability of the hypothesis of a primordial sac.

THERE are two antagonistic hypotheses in histology, viz. that of endogenous cell-formation and that of cell-fission; but there is a general concurrence on this point—that the walls of existing cells may be thickened in layers.

By this laminated thickening (of the true nature of which, however, very different conceptions are adopted) the adherents